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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/539,867

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Harold Keith Hill

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

EXAMINER

VAUGHN, MEGANN E

ART UNIT

PAPER NUMBER

2859

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/539,867	Applicant(s) HILL ET AL.	
	Examiner Megann E. Vaughn	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 and 28 is/are allowed.
- 6) ☒ Claim(s) 21-26 and 29-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/6/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 33 is objected to because of the following informalities:

Claim 33 is dependent upon a **cancelled claim 11**, for purposes of further prosecution, the examiner will assume that the applicant meant **claim 21**.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 21, 23, 25, 26, and 29-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Pakulis (US 4767981).

Regarding claims 21 and 26, Pakulis discloses in figures 1 and 2, an apparatus for measuring the transmission or attenuation of electromagnetic radiation through an object (column 1, lines 11-22), said apparatus including an electromagnetic radiation emitter (16) and detector (23), wherein the apparatus further includes a drive apparatus capable (37) of reversibly placing the said emitter immediately adjacent with a surface of the object (11) such that any emitted electromagnetic radiation from the emitter is transmitted into the object (column 4, lines 19-27; column 4, line 65- column 5, line 2), wherein to perform transmission/attenuation measurements, said emitter is positioned

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by said drive apparatus immediately adjacent with the surface of said object and said detector is positioned on an opposing side of the object such that the detector receives electromagnetic radiation transmitted through the object from the emitter (column 3, lines 3-31; see figures).

Regarding claim 23, Pakulis discloses that said object (11) includes any substance, material, or organic matter containing moisture.

Regarding claim 25, Pakulis discloses in figure 2 that said drive apparatus is capable of reversibly placing the said microwave detector (22) on an opposing side of said object (11) to said emitter (16) (see figure 2).

Regarding claim 29, Pakulis discloses in figures 1 and 2, that said detector (22) is positionable immediately adjacent to said object (11).

Regarding claim 30, Pakulis discloses in figures 1 and 2 that said detector (23) is located proximate to, but not in contact with said object (11) (see figures).

Regarding claims 31 and 32, Pakulis discloses in figures 1 and 2, a moving conveyance/conveyor system (13) configured to transport a plurality of objects (11; see figure 2) along a primary axis of travel passing between the emitter (16) and detector (22).

Regarding claims 33 and 35, Pakulis discloses in figure 2 a method of measuring the transmission or attenuation of electromagnetic radiation through successive objects using the apparatus claimed in claim 21, comprising the steps: successively transporting objects (11) via said conveyance system (13) (see figure 2) between the emitter (16) and detector (22) along the primary axis of travel (column 3, lines 3-31);

positioning the emitter adjacent to each object when interposed between said emitter and detector; performing an electromagnetic radiation transmission or attenuation measurement (column 3, lines 3-31); and moving the emitter away from the object (column 4, lines 19-40).

Regarding claim 34, Pakulis discloses in figure 2, positioning the detector (22) adjacent to each object (11) when interposed between said emitter (16) and detector (22) prior to performing the electromagnetic radiation transmission or attenuation measurement; and moving the detector away from the object (column 4, lines 28-40; column 4, line 65- column 5, line 2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 22 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pakulis (US 4767981) in view of Merkel et al (US 2003/0024315).

Regarding claim 22, Pakulis discloses in figures 1 and 2 the apparatus as claimed in claim 21 as stated in paragraph 3 above.

Regarding claim 36, Pakulis discloses in figures 1 and 2, a method of measuring microwave radiation using the apparatus as claimed in claim 21, said method characterized by the steps of, using said drive apparatus (37) to position the microwave

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emitter (16) immediately adjacent with a surface of said object (11) (see figure 2); irradiating the object with microwave radiation from the emitter; and detecting microwave radiation transmitted through the object with the microwave detector (22) positioned on an opposing side of the object to said emitter (see figures) (column 3, lines 3-31).

Pakulis does not disclose that the apparatus is configured for measuring the temperature of the object(s) from said microwave radiation received by the detector.

Merkel et al discloses an apparatus and method used to detect electromagnetic radiation in order to calculate the temperature of an object (page 3, [0051]). Therefore it would have been obvious to a person having ordinary skill in the art at the time that the invention was made to use the microwave radiation detected and disclosed by Pakulis to calculate temperature as taught by Merkel et al ^{in order to} find a relationship between the moisture content and temperature of the objects at the same time.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pakulis (US 4767981) in view of Williamson (US 6849852).

Pakulis discloses an apparatus as claimed in claim 21 as stated above in paragraph 3. Pakulis does not disclose that said object is frozen, near frozen or chilled.

Williamson discloses an apparatus and method that uses radiation to determine material changes in a frozen object/sample (column 4, lines 46-48). Therefore it would have been obvious to a person having ordinary skill in the art at the time that the invention was made for Pakulis to analyze frozen objects as taught by Williamson since

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the apparatus disclosed by Pakulis can be used to examine food products in bulk and a lot of food is produced and/or sold frozen.

Allowable Subject Matter

7. Claims 27 and 28 are allowed.

The following is an examiner's statement of reasons for allowance:

Claims 27 and 28 are allowable over the prior art of record because the prior art of record does not teach or disclose An apparatus for measuring the transmission or attenuation of electromagnetic radiation through an object, said apparatus including a proximity sensor capable of determining the proximity of the object to the emitter, wherein to perform transmission/attenuation measurements, said emitter is positioned by said drive apparatus immediately adjacent or in contact with the surface of said object, in combination with the remaining limitations of the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Kaufhold et al (US 21003/0072409) discloses an emitter and detector movable with respect to the object or each other.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Megann E. Vaughn whose telephone number is 571-272-8927. The examiner can normally be reached on 8 am- 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MEV
Patent Examiner Art Unit 2859
6/11/2007


Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800